


Infosafe No™ 3NUUW	Issue Date : September 2024	ISSUED by NUFARMNZ
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 Product Name **DIRECTOR® CS**

Section 1 - Identification

Product Identifier	DIRECTOR® CS
Product Code	00900
Product Type	Herbicide
Company Name	Nufarm NZ
Address	Central Park, Building 3, Level 4, 666 Great South Road Ellerslie Auckland 1051 New Zealand
Telephone/Fax Number	Tel: 0-9-270 4150
Emergency Phone Number	0800 651 911
Email	nzinfo@nufarm.com
Recommended uses and any restrictions on use or supply	A pre-emergence herbicide for use against certain broadleaf and grass weeds in carrots, peas, pumpkin, buttercup squash, potatoes, dwarf green beans, oilseed rape, fodder beet, and certain fodder, seed and vegetable brassicas.
Other Information	This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

Section 2 - Hazard(s) Identification

GHS classification of the substance/mixture	Hazardous to the aquatic environment chronic Category 2 Hazardous to the terrestrial environment: Hazardous to soil organisms
Signal Word (s)	WARNING
Hazard Statement (s)	H411 Toxic to aquatic life with long lasting effects H421 Very toxic to the soil environment
Precautionary Statement – General	P103 Read label before use
Pictogram (s)	Environment 
Precautionary Statement – Prevention	P273 Avoid release to the environment.
Precautionary Statement – Response	P391 Collect spillage.
Precautionary Statement – Disposal	P501 Dispose of contents/container to an approved landfill.

Section 3 - Composition and Information on Ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Clomazone	81777-89-1	36 % w/v
	Calcium chloride	10043-52-4	>6 % w/v
	Sodium nitrate	7631-99-4	>6 % w/v

Section 4 - First Aid Measures

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First-aid Measures	For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to mouth. Obtain medical attention.
Inhalation	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
Ingestion	Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.
Skin	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.
Eye	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Remove contact lenses if present and easy to do. Seek medical assistance.
First-aid Facilities	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
Advice to Doctor	This product has low oral, dermal and inhalation toxicity. The product is moderately irritating to the eyes and slightly irritating to the skin. Direct contact with eyes may produce corneal damage, especially if not washed out immediately. Inert ingredients contain xylene-range aromatic solvents which may produce a chemical pneumonitis; therefore vomiting is not recommended, and lavage requires intubation. Activated charcoal and cathartics will assist gastrointestinal tract evacuation.

Section 5 - Firefighting Measures

Suitable Extinguishing Media	Foam, carbon dioxide or dry chemicals.
Hazards from Combustion Products	May emit toxic smoke and fumes if involved in fires or exposed to extreme heat.
Special protective equipment for fire-fighters	Full protective clothing and self-contained breathing apparatus.
Specific Methods	Keep up wind. Do not allow washings to reach sewage or effluent systems. Keep containers cool with water spray.
Hazchem Code	3Z
Decomposition Temperature	Information is not available.
Other Information	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: Not applicable

Section 6 - Accidental Release Measures

Spills and Disposal	Wear protective clothing. Clear area of unprotected personnel. Contain spill and absorb with sand, soil or absorbent granules. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

Section 7 - Handling and Storage

Precautions for Safe Handling	The person mixing or applying DIRECTOR CS must be a 'Qualified Contractor' or a 'Qualified Person'. The spray mixture may also be prepared by a 'Qualified Loader'. It is the duty of the PCBU that a person who uses, handles, manufactures or stores a hazardous substance (including hazardous waste) is provided information, instruction and training in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances) Regulations 2017.
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Avoid skin and eye contact and inhalation of spray mist.
 This product must not be applied onto or into water.
BEWARE: Spray drift hazard. Apply this product carefully. Spray drift may cause serious damage to other desirable plants.
CERTIFIED HANDLER: Is not required.
TRACKING: Is not required.
RECORD KEEPING: Records of use, as described in NZS 8409 Management of Agrichemicals, must be kept if 3L or more of DIRECTOR CS is applied within 24 hours. Records must be kept for a minimum of 3 years from application date.
 Keep out of reach of children.
 Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs, fertilisers and seeds. Storage must be in accordance with NZS 8409 Management of Agrichemicals.
 Stores containing 1000L of DIRECTOR CS require signage, secondary containment and emergency response plans.

Conditions for safe storage, including any incompatibilities

Other Information Always read the label and any attached leaflet before use.
 Aggregate Storage Volume Thresholds:
 When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

Section 8 - Exposure Controls and Personal Protection

Occupational Exposure Limits (OEL)	No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product.
Appropriate Engineering Controls	Handle in well ventilated areas, generally natural ventilation is adequate. Local exhaust ventilation may be required in confined spaces.
Personal Protective Equipment	When handling wear eye protection, waterproof gloves, boots, hat and cotton overalls.
Hygiene Measures	Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work.

Section 9 - Physical and Chemical Properties

Form	Liquid
Appearance	Brown coloured liquid.
Odour	Slightly aromatic.
Decomposition Temperature	Information is not available.
Melting Point	25.0 - 34.7°C for clomazone.
Boiling Point	275.4 - 281.7°C for clomazone.
Solubility in Water	Disperses in water.
Specific Gravity	1.16 g/cm ³ @20°C
pH	8.87 @ 1% aqueous dispersion.
Vapour Pressure	19.2mPa (25°C) for clomazone.
Vapour Density (Air=1)	Information is not available.
Odour Threshold	Information is not available.
Partition Coefficient: n-octanol/water	Kow logP = 2.5 for clomazone.
Flash Point	>93°C
Flammability	Information is not available.

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Auto-ignition Temperature	Information is not available.
Flammable Limits - Lower	Information is not available.
Flammable Limits - Upper	Information is not available.
Kinematic Viscosity	Information is not available.
Particle Characteristics	Information is not available.
Other Information	(CS) Capsule Suspension

Section 10 - Stability and Reactivity

Chemical Stability	Stable under normal conditions of handling and storage.
Conditions to Avoid	Excessive heat and fire.
Hazardous Decomposition Products	Carbon monoxide and/or carbon dioxide, oxides of nitrogen, chlorine and hydrogen chloride.
Hazardous Polymerization	Hazardous polymerisation will not occur.

Section 11 - Toxicological Information

Acute Toxicity - Oral	LD50 (rat) >5000 mg/kg for similar formulation. LD50 (female rat) = 1369mg/kg for clomazone.
Acute Toxicity - Inhalation	LC50 (rat) (4hr) = 4.8mg/L for clomazone.
Acute Toxicity - Dermal	LD50 (rat) >5000 mg/kg for a similar formulation. LD50 (rabbits) >2000 mg/kg for clomazone.
Skin Corrosion/Irritation	Slightly irritating to skin (rabbits) for clomazone.
Serious Eye Damage/Irritation	Slightly irritating to eyes (rabbits) for clomazone.
Skin Sensitisation	Not a skin sensitiser (guinea pigs) for clomazone.
Germ Cell Mutagenicity	Information is not available.
Carcinogenicity	Information is not available.
Reproductive Toxicity	Studies in laboratory animals did not cause reproductive toxicity.
STOT - Repeated Exposure	Information is not available.
Aspiration Hazard	Information is not available.
Chronic Effects	Liver enlargement and elevated cholesterol levels have been noted in studies on laboratory animals, where clomazone was ingested in large doses over the life span of the animals. In studies with laboratory animals, clomazone did not cause reproductive or teratogenic effects or carcinogenicity. The toxicity of the product may be attributed to the solvent it contains which may cause central nervous system depression. Additive effects may occur with mixtures of solvents. Some solvents have irritating effects on the eyes and skin.
Other Information	The Australian Acceptable Daily Intake (ADI) for clomazone for a human is 0.1 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 14 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Aust Govt Dept. of APVMA, 'ADI List', Edition 2/2024).

Section 12 - Ecological Information

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Persistence and Degradability	Soil DT50 = 30-135 d for clomazone depending upon soil conditions. Field trials showed that clomazone does not significantly leach beyond top 10 cm of soil and is, therefore, not expected to enter groundwater.
Mobility	Information is not available.
Bioaccumulative Potential	Not bioaccumulative.
Acute Toxicity - Fish	LC50 (96hr) for rainbow trout is 19mg/L for clomazone. LC50 (96hr) for bluegill sunfish is 34 mg/L for clomazone.
Acute Toxicity - Daphnia	LC50 (48hr) for daphnia is 5.2 mg/L for clomazone.
Acute Toxicity - Algae	EbC50 for Selenastrum capricornutum is 2.22mg/L for clomazone.
Acute Toxicity - Other Organisms	Birds: LD50 for bobwhite quail and mallard ducks is >2510 mg/kg for clomazone. Bees: LD50 for honeybees >85.29µg/bee (oral), >100µg/bee (contact) for clomazone. Worms: LC50 (14d) for Eisenia foetida = 530 mg/kg soil for clomazone.

Section 13 - Disposal Considerations

Product Disposal	Dispose of product only by using according to the label, or at an approved landfill.
Container Disposal	Triple rinse empty container and add rinsate to spray tank. Recycle empty container. Otherwise crush and bury in a suitable landfill.

Section 14 - Transport Information

Transport Information	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
UN Number	3082
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (clomazone)
Hazard Class	9
Hazchem Code	3Z
Packaging Method	-
Packing Group	III
EPG Number	-
IERG Number	47
IMO Marine Pollutant	Yes. Environmentally Hazardous Substance mark required.
IMDG EMS	F-A, S-F
Other Information	Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information. Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

Section 15 - Regulatory Information

National and or International Regulatory Information	Registered pursuant to the ACVM Act 1997, No. P9222 See www.foodsafety.govt.nz for registration conditions Approved pursuant to the HSNO Act 1996, Approval Code HSR007804 See www.epa.govt.nz for approval controls.
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Section 16 - Any Other Relevant Information

Date of preparation or last revision of SDS	September 2020.
Contact Person/Point	IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE 24Hr Tollfree Emergency No: 0800 651 911

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**Revisions
Highlighted**

24Hr Emergency No: National Poisons Centre Phone: 0800 764 766
Various changes and updates made to the document to comply with GHS7.

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